

What is claimed is:

1. A method for determining the occlusal alignment of jaw dental models using a physical replicate of the occlusal bite registration impression, comprising:
  - a) creating a digital 3D surface contour model of the bite registration impression;
  - b) fabricating a physical replicate bite model of the bite registration impression using the data from the digital 3D surface contour model of the bite registration impression;
  - c) correlating features on the upper and lower jaw dental models with features on the replicate bite model; and
  - d) aligning the occlusal contact of the upper jaw and lower jaw dental models by nesting the upper jaw dental model occlusal features into the corresponding features in the replicate bite model features and nesting the lower jaw dental model occlusal features into its corresponding features in the replicate bite model.
2. The method of claim 1, wherein the bite registration impression is used to show a partial occlusion.
3. The method of claim 1, wherein the bite registration impression is used to show a full occlusion.
4. The method of claim 1, wherein the dental models represent partial jaws.
5. The method of claim 1, wherein the dental models represent full jaws.
6. The method of claim 1, wherein the replicate bite model represents a full bite registration impression.

7. The method of claim 1, wherein the replicate bite model represents a partial bite registration impression.
8. The method of claim 1, wherein the replicate bite model is fabricated using numerically controlled machining equipment.
- 5 9. The method of claim 1, wherein the replicate bite model is fabricated using rapid prototyping equipment.
10. The method of claim 9, wherein the replicate bite model is fabricated using stereo lithographic apparatus (SLA) rapid prototyping equipment.
11. A system for determining the occlusal alignment of jaw dental models using a replicate of the occlusal bite registration impression, comprising:
- 10 a) means for imaging the surface of the bite registration impression;
- b) means for using the image data to create a digital 3D surface contour model of the bite registration impression;
- c) means to fabricate a physical replicate bite model from the data file for the digital 3D surface contour model of the bite registration impression; and
- 15 d) means for using the replicate bite model to align the occlusal surfaces of the upper jaw and lower jaw dental models.
12. The system of claim 11, wherein the bite registration impression is used to show a partial occlusion.
- 20 13. The system of claim 11, wherein the bite registration impression is used to show a full occlusion.
14. The system of claim 11, wherein the dental models represent partial jaws.
15. The system of claim 11, wherein the dental models represent full jaws.

16. The system of claim 11, wherein the replicate bite model represents a full bite registration impression.
17. The system of claim 11, wherein the replicate bite model represents a partial bite registration impression.
- 5 18. The system of claim 11, wherein the replicate bite model is fabricated using numerically controlled machining equipment.
19. The system of claim 11, wherein the replicate bite model is fabricated using rapid prototyping equipment.
20. The system of claim 19, wherein the replicate bite model is fabricated using  
10 stereo lithographic apparatus (SLA) rapid prototyping equipment.